V. E. MELLRE.

PROJECTING APPARATUS.

APPLICATION FILED MAR. 27, 1908.

913,530.

Patented Feb. 23, 1909.

2 SHEETS—SHEET 1.

Fig. 2

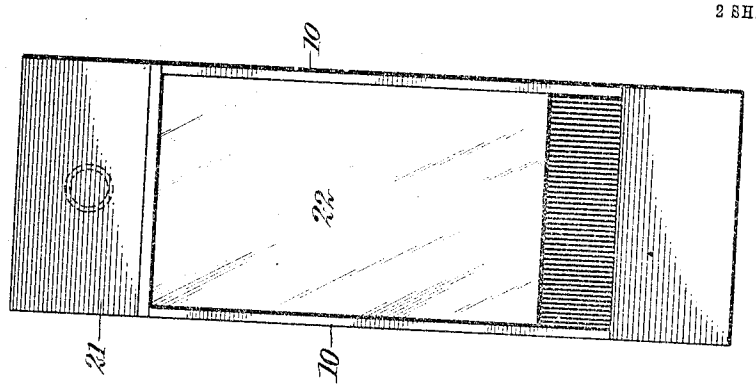
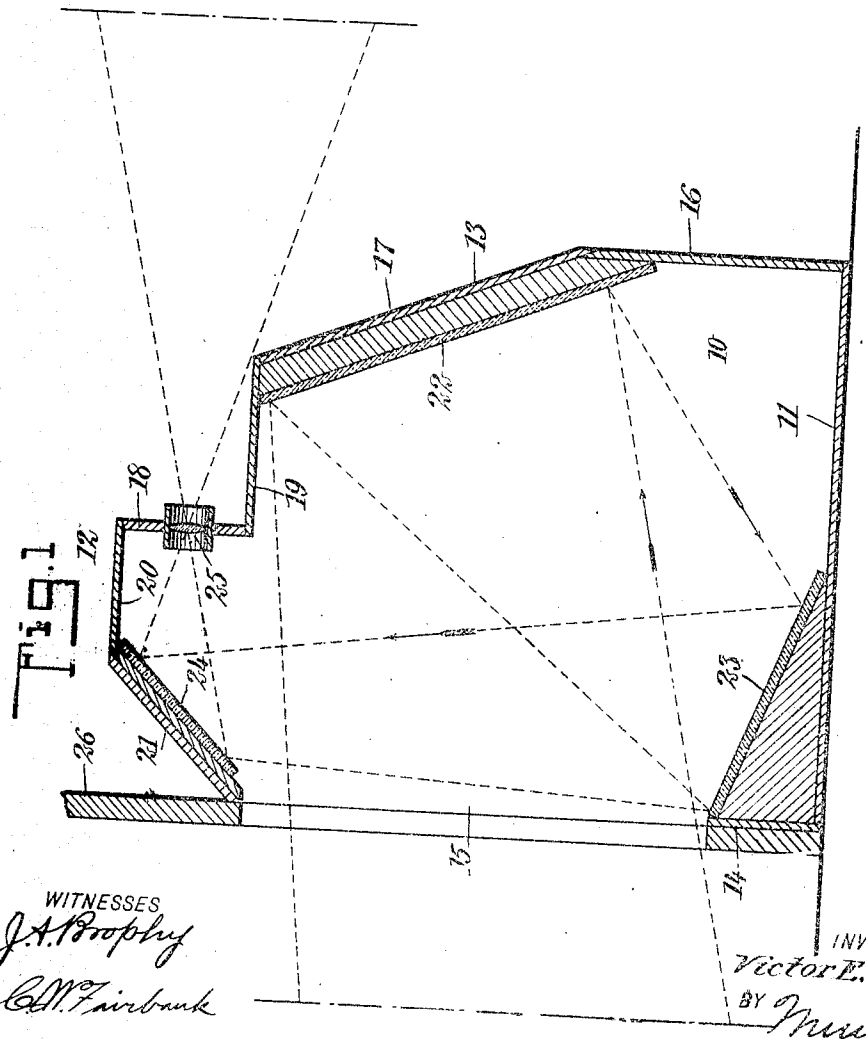


Fig. 1



WITNESSES

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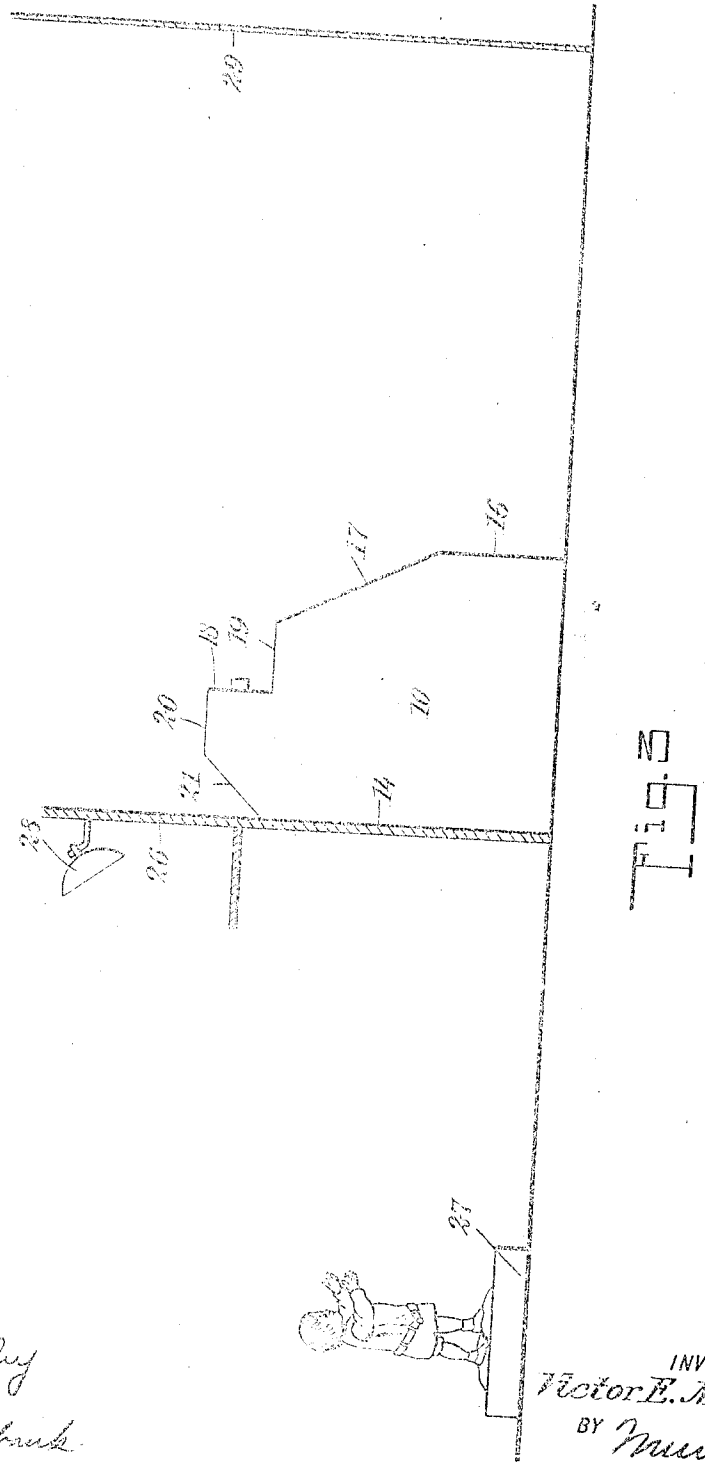


FIG. 1

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VICTOR EUGENE MELLRE, OF NEW YORK, N. Y.

PROJECTING APPARATUS.

No. 913,530. Specification of Letters Patent. Patented Feb. 23, 1909.

Application filed March 27, 1908. Serial No. 423,497.

To all whom it may concern:

Be it known that I, VICTOR E. MELLRE, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Projecting Apparatus, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in devices for projecting animated or still images upon a screen, or the like, by the use of artificial light.

The device is especially adapted for producing motion pictures, the moving bodies being concealed from view but the images thereof being projected upon the screen.

My invention involves a box or cabinet, having the major portion of one vertical side thereof open and having a plurality of mirrors arranged upon the inner surface of the walls of the box or cabinet, so that the light rays from the bodies will be reflected and converged through a lens carried by one wall of the box or cabinet, so as to project the image upon the screen.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is a vertical section through a device constructed in accordance with my invention; Fig. 2 is an end view thereof; and Fig. 3 is a diagrammatic view, showing the relative arrangement of the moving bodies, the cabinet and the screen.

The specific form of my improved projecting apparatus illustrated in the accompanying drawings, includes a box or cabinet, having oppositely-disposed substantially parallel side walls 10, a bottom wall 11, a top wall 12, and front and back walls 13 and 14. The back wall 14 is provided with an opening 15 extending from closely adjacent the bottom of the cabinet to closely adjacent the top thereof, and of a width substantially equal to the width of the cabinet. The front wall 13 is made up of a plurality of sections, including a lower substantially vertical section 16, an intermediate section 17, inclined to approximately twenty-two and one-half degrees from the vertical, and an upper substantially vertical section 18, connected to the upper end of the inclined section 17 by a section 19 of the top of the cabinet. The other section 20 of the top of the cabinet is connected to the rear wall 14 at the upper edge of the opening 15, by a wall section 21, extending at approximately forty-five degrees to the horizontal. The inner surface of the wall section 17, which is directly opposite to the opening 15, supports a mirror 22, reflecting toward the opposite lower corner of the cabinet, the light rays entering substantially horizontally through the opening 15.

Within the cabinet and at the rear lower corner, I provide a mirror 23, extending at an angle of approximately twenty-two and one-half degrees to the horizontal, and receiving the light rays from the mirror 22 and reflecting them upwardly toward the top of the cabinet, at substantially right angles to the path of the rays entering the opening 15. The inner surface of the wall section 21 carries a mirror 24, extending at an angle of substantially forty-five degrees to the horizontal, and receiving the light rays from the mirror 23 and reflecting them substantially horizontally to a double convex lens 25 mounted in an aperture in the vertical wall section 18. All portions of the inner surface of the box or cabinet, save that covered by the mirrors, are painted black, so that no light rays will be reflected save those which strike the mirrors.

In the use of my improved projecting apparatus, I place the cabinet intermediate the bodies, the images of which are to be projected, and the screen, wall, curtain, or other ground upon which the images are to be projected. The bodies or subjects and the screen, are preferably separated from each other by an opaque wall 26, so that no light rays will reach the screen save those passing through the cabinet. This opaque wall is provided with an opening therein, substantially registering with the opening 15 of the cabinet. The persons, animals, figures, bodies, scenery, or other subjects, are placed at a short distance from the cabinet, as, for instance, upon a platform 27, and are illuminated, as, for instance, by artificial lights 28. The curtain, screen, or wall 29, is in darkness, save for the light reflected thereon from the mirrors and through the lens, but by reason of said mirrors and lens, the images of the bodies or subjects on the platform 27, will be projected upon the screen right side up, clear in outline, perfect in detail, and also in the natural colors. If desired, the partition 26, or the

walls of the cabinet, may be made of black cloth, to permit the speaking, singing, or music, of the persons on the platform 27, to be heard by the persons viewing the screen.

The apparatus may be made any size desired, depending upon the size of the objects to be projected upon the screen and the size of the space available. The mirrors may be arranged at different angles, or may be varied in number, it only being essential that the cabinet have the mirrors and lens or lenses so arranged on its interior walls, that the light rays entering the cabinet substantially horizontally through one side, will be projected substantially horizontally at another side toward the screen.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. The combination with an opaque partition adapted to separate a lighted room from a darkened room and having an opening therein, of a projecting apparatus including a casing having one side thereof substantially open and disposed adjacent said opening in said partition, a mirror within said casing and opposite said opening, a second mirror within said casing and receiving reflected light from said first-mentioned mirror, a third mirror within said casing and receiving reflected light from the second-mentioned mirror, and a lens in the same wall of the casing as is said first-mentioned mirror, whereby the image of a body in the lighted room may be projected onto a screen in the darkened room.

2. A projecting apparatus, comprising a box or casing, having one side thereof substantially open, a mirror upon the inner surface of the side opposite said opening and inclined to reflect downwardly the rays entering substantially horizontally, through said opening, a mirror in the lower portion of said casing and at an angle to reflect the rays from the first-mentioned mirror upward toward the top of said casing, a mirror in the upper portion of said casing adapted to reflect the rays from the last-mentioned mirror substantially horizontally, and a lens through which the rays from the last-mentioned mirror may pass, whereby the image of objects in front of said opening may be projected upon a surface outside of said casing and in front of said lens.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

VICTOR EUGENE MELLRE.

Witnesses:
CLAIR W. FAIRBANK,
JOHN P. DAVIS.